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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
PHASGE, ARUN S	
ART UNIT	**PAPER NUMBER**
1753	

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/533,098	HORVATH ET AL.	
	Examiner	Art Unit	
	Arun S. Phasge	1753	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-15 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-15 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

Claim 3 contains the trademark/trade name Nafion. Where a trademark or trade name is used in a claim as a limitation to identify or describe a particular material or product, the claim does not comply with the requirements of 35 U.S.C. 112, second paragraph. See *Ex parte Simpson*, 218 USPQ 1020 (Bd. App. 1982). The claim scope is uncertain since the trademark or trade name cannot be used properly to identify any particular material or product. A trademark or trade name is used to identify a source of goods, and not the goods themselves. Thus, a trademark or trade name does not identify or describe the goods associated with the trademark or trade name. In the present case, the trademark/trade name is used to identify/describe a type of perfluorinated polyethylene sulfonic acid membrane and, accordingly, the identification/description is indefinite.

Regarding claim 7, the phrase "for example" or "e.g." renders the claim indefinite because it is unclear whether the limitation(s) following the phrase are part of the claimed invention. See MPEP § 2173.05(d).

Claim Rejections - 35 USC § 101

Claims 14-15 provide for the use of an aqueous phase comprising ferricyanide, but, since the claim does not set forth any steps involved in the method/process, it is unclear what method/process applicant is intending to encompass. A claim is indefinite where it merely recites a use without any active, positive steps delimiting how this use is actually practiced.

Claims 14-15 are rejected under 35 U.S.C. 101 because the claimed recitation of a use, without setting forth any steps involved in the process, results in an improper definition of a process, i.e., results in a claim which is not a proper process claim under 35 U.S.C. 101. See for example *Ex parte Dunki*, 153 USPQ 678 (Bd.App. 1967) and *Clinical Products, Ltd.* v. *Brenner*, 255 F. Supp. 131, 149 USPQ 475 (D.D.C. 1966).

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless -
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the

> invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 13-14 are rejected under 35 U.S.C. 102(e) as being anticipated by Czollner et al. (Czollner), U.S. Patent 6,407,229 B1.

The Czollner patent discloses an aqueous phase ferricyanide, which is used for effecting an oxidative phenolic coupling reaction of substrates (see Example 34).

Accordingly, the claims are anticipated.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* v. *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.

2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1-7, 9-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gao et al. (Gao), U.S. Patent 5,419,817 in view of Czollner applied as above.

The Gao patent discloses the claimed process for oxidizing an aqueous phase comprising ferrocyanide which is recovered from an oxidative organic reaction to an aqueous phase comprising ferricyanide in a divided electrochemical cell, which is divided by a Nafion cation selective membrane, preparing an anolyte comprising pretreating the aqueous phase comprising ferrocyanide, placing the anolyte in contact with an anode, placing a catholyte in contact with the cathode, applying electrical power to the divided cell for a time period sufficient to oxidize the ferrocyanide to ferricyanide (see col. 14, lines 38 to 60 and col. 13, line 40-45). The reference further discloses the pretreatment steps, such as decanting, separating which is the same as filtering and extracting with an organic solvent (see col. 14, lines 45-68). The patent further discloses the use of an alkali metal salt as the catholyte (see col. 10, lines 7-10). The patent discloses the same types of materials used for the cathode (see col. 9, lines 16-22). The reference further

discloses the range of voltage (see col. 9, lines 40-43). The patent further discloses the temperature range (see col. 9, lines 42-44). The patent further teaches the monitoring step of recording the current passing through the cell (see col. 9, lines 50-61).

The patent does not disclose that the ferrocyanide is obtained from an oxidative phenolic coupling reaction rather it is obtained from an oxidative organic reaction. The Czollner patent is cited to show the use of ferrocyanide in an oxidative phenolic coupling reaction. Therefore, the invention as a whole would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the disclosure of the Gao patent to obtain the aqueous ferrocyanide solution from an oxidative phenolic coupling reaction, because the Czollner patent teaches the use of ferricyanide to produce said reaction.

Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Gao as applied to claims above, and further in view of Sanders, U.S. Patent 4,032,415.

The Gao patent does not disclose that the anode is graphite, rather it uses other oxidation resistant materials. The Sanders patent is cited to show it is known in the art to use carbonaceous materials as the anode in the oxidation of ferrocyanide to ferricyanide (see col. 8, lines 61-69).

Consequently, the invention as a whole would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the disclosure of the Gao patent to use other conventional materials for the anode, because the Sanders patent teaches the use of carbon for the anode.

Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Czollner applied as above.

The compound of the formula (II) and (III) differ from the Czollner patent by the placement of the Br adjacent the MeO. It would have been obvious to one having ordinary skill in the art at the time the invention was made to substitute a known hydrocarbon feed for another in a hydrocarbon conversion process, because such substitution has been well settled to be an obvious modification within the skill of the ordinary artisan.

Conclusion

Other references, such as the Poschalko and Czollner articles disclose the same types of oxidation coupling reactions using ferricyanide and could have been used to reject the claims 13-15 as above.

However, such rejections would have been redundant and accordingly have not been made.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Arun S. Phasge whose telephone number is (571) 272-1345. The examiner can normally be reached on MONDAY-THURSDAY, 7:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nam X. Nguyen can be reached on (571) 272-1342. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Arun S. Phasge
Primary Examiner
Art Unit 1753

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